

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings of claims in the application:

1. (Currently Amended) An apparatus comprising:

a connector member being tubular and having at least one of an exterior periphery surface and an interior periphery surface, and a length; the connector member including a plurality of conductive members comprising a plurality of conductive fibers, the plurality of conductive fibers disposed in a polymer and forming a conductive region adapted to provide current in a surface layer of 1 to 25 microns in at least one of the exterior periphery surface and the interior periphery surface;

wherein the plurality of conductive fibers each have a first end, a length, a second end, and a diameter in the range of from 0.5 microns to 25 microns;

a metal coating having a thickness in the range of from .001 microns to 25 microns disposed on at least a portion of the outside surface of a plurality of the conductive members;

wherein the plurality of conductive members are located with respect to each other in the connector member including at least one dimension between at least a plurality of the conductive members;

wherein a polymer is solidified about at least a portion of a periphery of a plurality of the conductive members forming an integral structure;

wherein the connector member includes a plurality of recesses extending internal to the connector member from openings in at least one of the exterior periphery surface and the interior periphery surface; and

wherein a conductive contact surface defined by a plurality of conductive fiber ends is located inside at least one of the plurality of recesses, the conductive contact surface located inside at least one of the plurality of recesses being exposed through an opening in at least one of the exterior periphery surface and the interior periphery surface, the conductive fibers longitudinally oriented towards at least one of the exterior periphery surface and the interior periphery surface; wherein a conductive contact surface defined by a plurality of conductive fiber ends is located outside at least one of the plurality of recesses, the conductive contact surface being exposed and extending through an opening in at least one of the exterior periphery surface and the interior periphery surface; and

wherein at least one opening extends between the interior periphery surface and the exterior periphery surface.

2. (Original) The apparatus of **claim 1** wherein the plurality of conductive fibers are pultruded within the polymer.

3. (Previously Presented) The apparatus of **claim 2** wherein the plurality of conductive fibers include fibrillated ends.

4. (Original) The apparatus of **claim 1** wherein at least one of the apparatus and the conductive member is not straight along its length and extends in more than one direction.

5. (Original) The apparatus of **claim 1** wherein the apparatus includes a lumen.

6. (Canceled).

7. (Currently Amended) The apparatus of **claim 1** wherein the conductive contact surface ~~is adapted for communication~~ communicates with a circuit.

8. (Previously Presented) The apparatus of **claim 1** wherein the conductive contact surface is exposed at a periphery surface.

9. (Original) The apparatus of **claim 1** wherein a plurality of conductive fibers are at least partially coated with an electrically conductive material.

10. (Previously Presented) The apparatus of **claim 1** wherein the conductive members are at least partially coated with an electrically conductive material.

11. (Original) The apparatus of **claim 1** wherein the conductive members comprise a thermally conductive material.

12. (Previously Presented) The apparatus of **claim 1**, wherein the apparatus further includes a plurality of non-conductive members comprising non-conductive fibers, the plurality of non-conductive members being disposed in the connector member with the plurality of conductive members.

13. (Original) The connector of **claim 1** wherein the metal coating is formed by at least one of vacuum deposition, vapor deposition, electroplated, sputter coating, and electroless plated process.

14. (Previously Presented) The apparatus of **claim 1** wherein the conductive fibers includes at least one of a metal and metal alloy.

15. (Previously Presented) The apparatus of **claim 1** wherein the plurality of conductive fibers include a coating material selected from at least one of nickel, copper, gold, platinum, tungsten, silver, palladium, tin, iron, aluminum, zinc, chromium, lead, brass, nickel/boron, gold/carbon, palladium/nickel, and silver carbon.

16. (Original) The apparatus of **claim 14** wherein the metal is an eutectic metal alloy including tin/lead and solder.

17. (Original) The apparatus of **claim 1** wherein the conductive fibers include carbon and the metal coating has a weight in the range of from 2% to 50% of the weight of the carbon in the conductive member.

18. (Previously Presented) The apparatus of **claim 1** wherein a conductive region is within 25 microns of at least one of the exterior periphery surface and the interior periphery surface.

19. (Original) The apparatus of **claim 1** wherein the metal coating has a weight in the range of from 1% to 90% of the weight of the conductive member.

20. (Previously Presented) The apparatus of **claim 1** wherein the plurality of fibers are metal coated and are pultruded in a resin binder to form a cross-sectional shape.

21. (Original) The apparatus of **claim 1** wherein the plurality of fibers include carbon and are metal coated and separated from another by at least one of the polymer and an insulating fiber.

22. (Currently Amended) An apparatus comprising:

a composite tubular member comprising a plurality of conductive fibers, each conductive fiber having a length, outside surface, a diameter in the range of from 0.5 microns to 25 microns, a first end and a second end, the composite member having an outside surface and a length;

a metal coating having a thickness in the range of from 0.001 microns to 10 microns disposed on at least a portion of the outside surface of a plurality of the conductive fibers;

wherein at least one conductive fiber is spaced from another conductive fiber along at least a portion of the length of the composite member; and wherein the composite member includes a polymer resin solidified about at least a portion of a periphery of the plurality of conductive fibers forming an integral structure;

wherein a plurality of the conductive fibers form at least one set of conductive fibers in the composite member, the at least one set of conductive fibers having a length and cross sectional area in the range of from less than 0.01 square microns to 1000 square microns and a metal coating having a thickness disposed on at least a portion of an outside surface of the at least one set of conductive fibers;

wherein the composite tubular member is a connector including an outside surface adapted to provide current in a layer adjacent to the outside surface;

wherein the composite tubular member includes a plurality of recesses extending internal to the composite member from openings in at least one of the exterior periphery surface and the interior periphery surface; and

wherein a conductive contact surface defined by a plurality of conductive fiber ends is located inside at least one of the plurality of recesses, the conductive contact surface located inside at least one of the plurality of

recesses being exposed through an opening in at least one of the exterior periphery surface and the interior periphery surface, the conductive fibers longitudinally oriented towards at least one of the exterior periphery surface and the interior periphery surface;

wherein a conductive contact surface defined by a plurality of conductive fiber ends is located outside at least one of the plurality of recesses, the conductive contact surface being exposed and extending through an opening in at least one of the exterior periphery surface and the interior periphery surface; and

wherein at least one opening extends between the interior periphery surface and the exterior periphery surface.

23. (Canceled).

24. (Original) The apparatus of **claim 22** further comprising fibrillated fibers extending from a surface.

25. (Previously Presented) The apparatus of **claim 22** wherein the conductive fiber ends are fibrillated and have a length in the range from 0.001 mm to 100 mm and are substantially flexible defining a nonlinear profile in a recess.

26. (Previously Presented) The apparatus of **claim 22** wherein the conductive contact surface comprises exposed ends of the plurality of conductive fibers defining a sculpted shape profile internal to a recess.

27. (Original) The apparatus of **claim 22** wherein the apparatus is suitable for use in an RF electric circuit to conduct current in the range of 1 hertz to 100 giga-hertz.